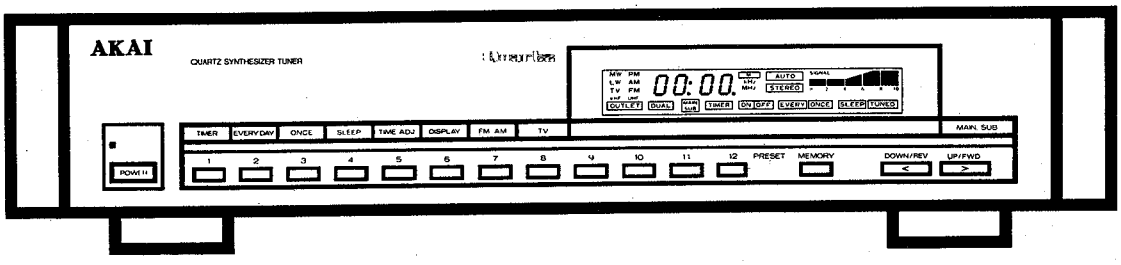
AKAI SERVICE MANUAL



QUARTZ SYNTHESIZER TUNER

MODEL AT-M739/L

SPECIFICATIONS

FM section

Tuning frequency range		87.5 MHz to 108.0 MHz
Usable sensitivity		19.2 dBf (V) Model only 11.2 dBf Other models
Quieting sensitivity (S/N = 50 dB)	Mono	29.2 dBf (V) Model only 16.2 dBf other models
	Stereo	50.2 dBf (V) Model only 37.2 dBf Other models
Capture ratio		1.5dB
Alternate channel selectivity (+/–400 kHz)		60 dB
Image rejection (98 MHz)		80 dB
IF rejection		80 dB
Suprious rejection		80 dB
AM suppression		60 dB
Sub carrier suppression		60 dB
Frequency response		20 Hz to 15 kHz ±1 dB
S/N ratio	Mono	65 dB (V) model only 70 dB Other models
	Stereo	60 dB (IHF-A)
Distortion (T.H.D. 1 kHz)	Mono	0.3% (V) Model only 0.1% Other models
	Stereo	0.4% (V) model only 0.5% Other models
Stereo separation (1 kHz)		35 dB (V) Model only 45 dB Other models
Muting threshold level		22 dBf

MW section

Tuning frequency range	531 kHz to 1,602 kHz
Usable sensitivity	800 μV/m (S/N = 20 dB)
Selectivity	50 dB
Image rejection (999 kHz)	40 dB
IF rejection	30 dB
S/N ratio	40 dB
Distortion (T.H.D. 1 kHz)	0.8%

LW section

Tuning frequency range	146 kHz to 353 kHz
Usable sensitivity	3,980 μV/m (S/N = 20 dB)
Selectivity	50 dB
Image rejection (250 kHz)	35 dB
IF rejection	45 dB
S/N ratio	35 dB
Distortion (T.H.D. 1 kHz)	1.0%

OUTPUT LEVEL/IMPEDANCE section

FM (75 kHz DIV. 1 kHz)	1,200 mV/2 kohms (V) Model only 775 mV/2 kohms Other models
MW/LW (30% MOD. 400Hz).	220 mV/2 kohms

TIMER section

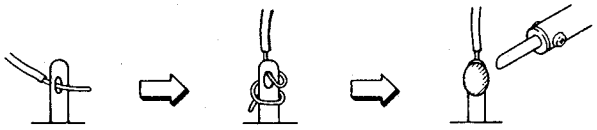
Timer accuracy	±15 seconds within one month (25°C)
Timer base	Quartz oscillator
Timer operation accuracy	Less than 0.2 seconds
Timer display	24 hour, FL display
Timer system	Daylyn 2 programs
Timer set period	1 minute to 24 hours and 59 minutes
Sleep timer set period	1 minute to 1 hour and 59 minutes
AC outlets	Switched x 2 total 400W maximum
Power requirements	220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK and
Dimensions	385 (W) x 74 (H) x 330 (D) mm (15.2 x 2.9 x 13.0 inches)
Weight	3.6 kg (7.9 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locatoins.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

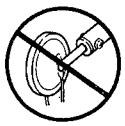
Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

PRECAUTIONS FOR LITHIUM BATTERY

The lithium battery may explode when heated excessively.

[OBSERVE THE FOLLOWING WHEN REPLACING]

- Replace with the same make and type only.
- Use soldering iron in "recommended way" only.
- Place battery in correct polarity.
- Do not short the terminals.
- Do not recharge battery.
- Do not dispose of battery in fire.



[DANGER]

[RECOMMENDED WAY]

★INFORMATION

SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[A]	USA
[B]	UK
[C]	Canada
[E]	Europe (except UK)
[J]	Japan
[S]	Australia
[V]	W. Germany only
[U]	Universal Area
[Y*]	Custom version

I. CONTROLS

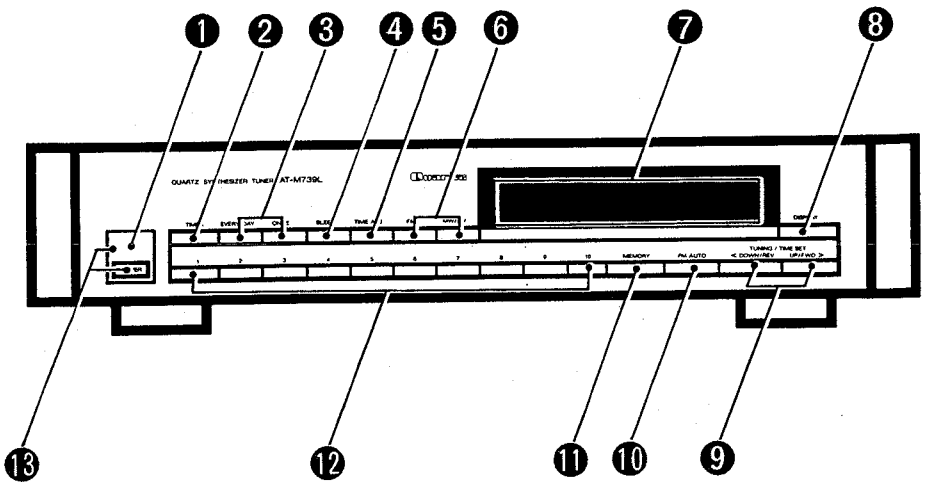


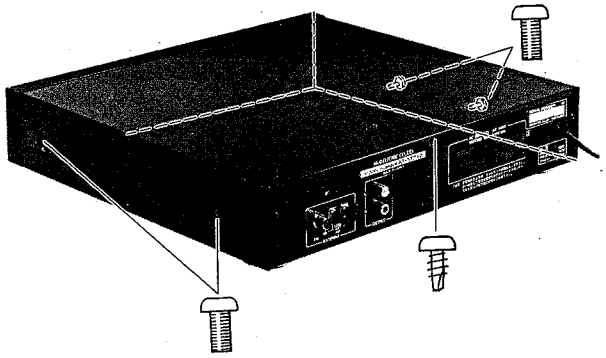
Fig. 1-1 Controls

1. **Remote control receiver**
2. **TIMER button**
   To turn the power on and off at a memorized time.
3. **EVERY DAY and ONCE button**
   To memorize the turn on and off time of the timer for either one time or everyday timer operation. Also used for confirming that the turn on/off time has been memorized.
4. **SLEEP button**
   For automatically turning off the tuner at a memorized time.
5. **TIME ADJ button**
   To set the timer to the present time.
6. **BAND (FM and AM for AT-M739, FM and MW/LW for AT-M739L) Button**
   To select the band.
7. **FL (Fluorescent) Display**
   Shows tuning information and timer information.
8. **DISPLAY button**
   To change the display mode of the FL display for tuning information or timer information.
9. **TUNING/TIME SET (< DOWN/REV, UP/FWD >) buttons**
   To tune in a station or to adjust the time during time setting.
10. **FM AUTO button**
    To select FM AUTO or monaural mode.
11. **MEMORY button**
    To memorize preset stations and to memorize a time setting.
12. **Preset Station Buttons (1 to 20)**
    To memorize preset stations and tune in memorized stations.
13. **POWER Switch and LED (Light Emitting Diode) indicator**
    To turn the power on and off.
    The switched AC outlets turn on and off at the same time.

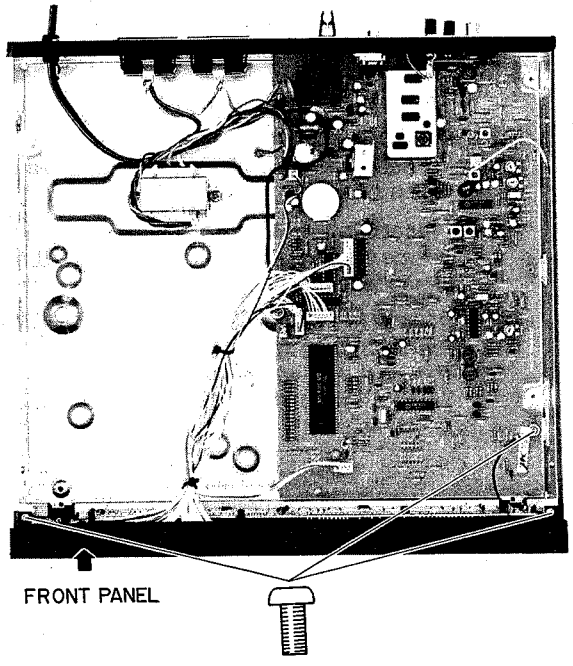
II. DISASSEMBLY

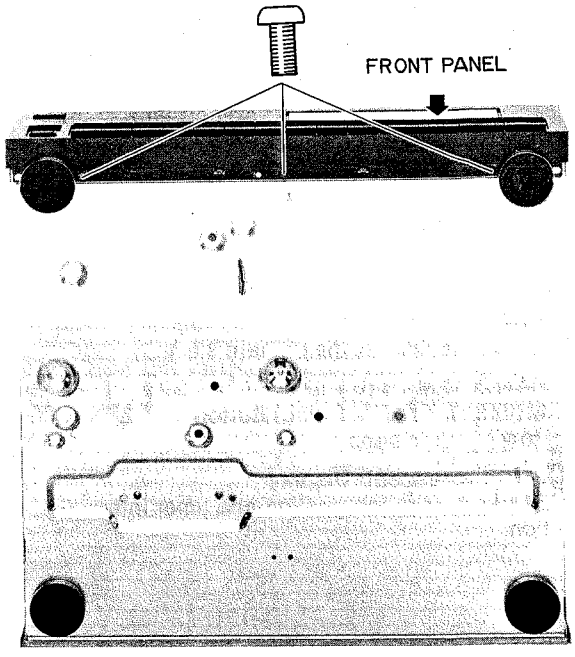
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

1 REMOVAL OF UPPER COVER



2 REMOVAL OF FRONT PANEL





III. PRINCIPAL PARTS LOCATION

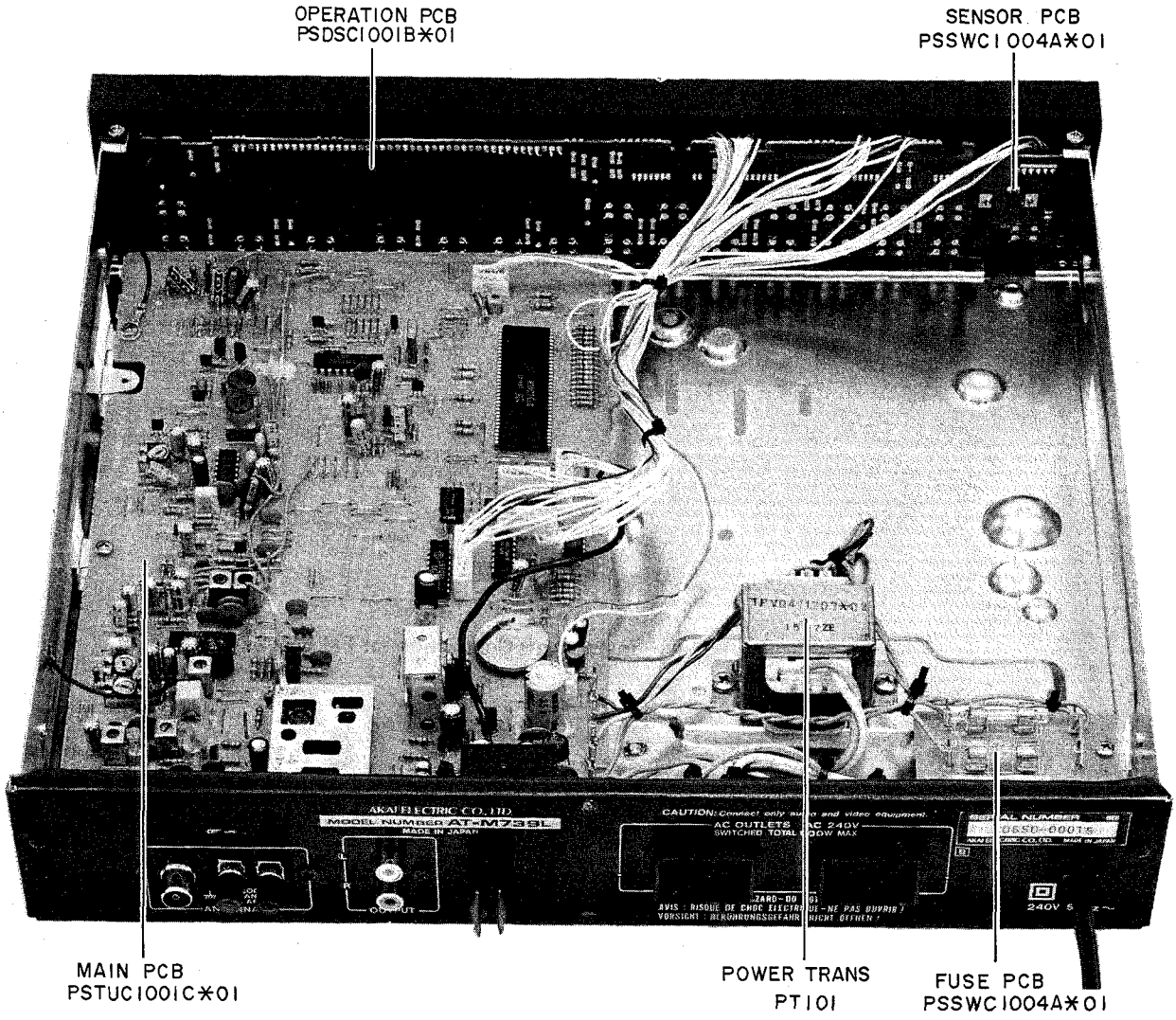


Fig. 3-1

IV. ADJUSTMENT

4-1. INSTRUMENTS CONNECTION

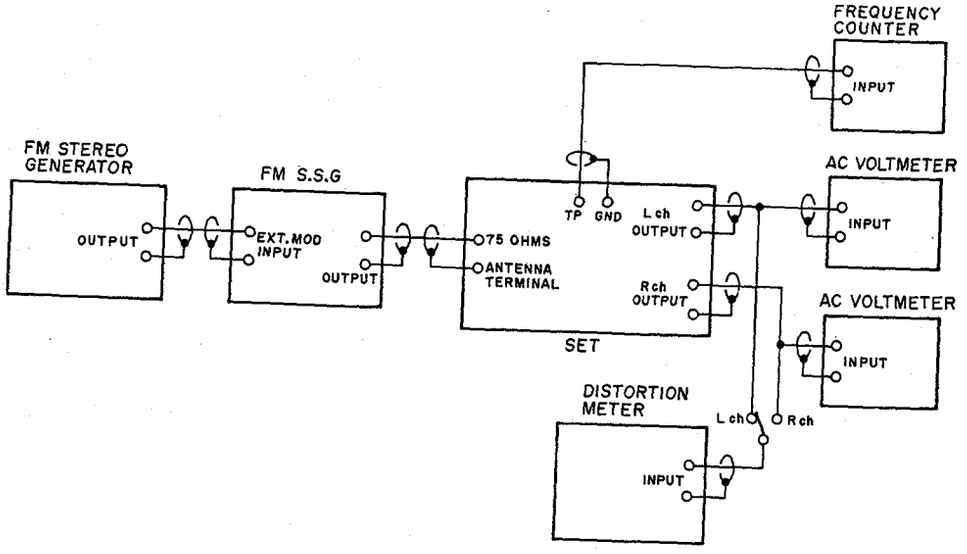


Fig. 4-1 Instruments Connection for FM Section Adjustment

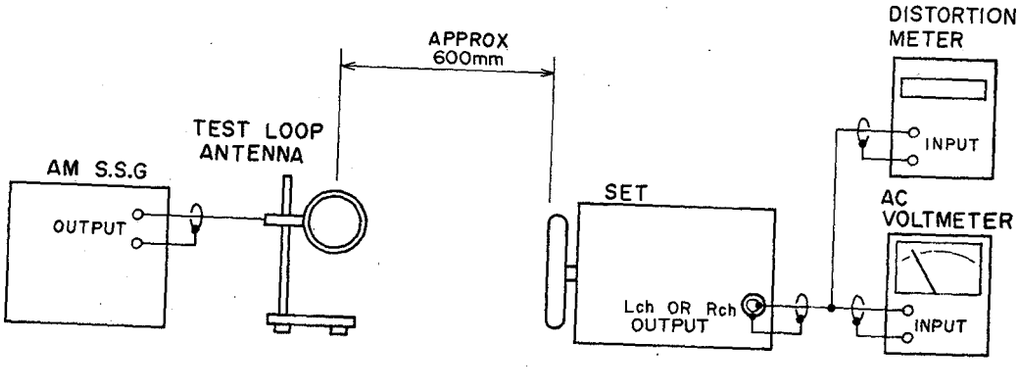


Fig. 4-2 Instruments Connection for AM (MW/LW) Section Adjustment

4-2. TUNER ADJUSTMENT AND ADJUSTMENT POINTS

STEP	ADJUSTMENT ITEM
1.	SSG FREQ & ATT.
2.	SET TUNING FREQ.
3.	TEST POINT & ADJ. PART.
4.	RESULT & REMARKS.

TEST POINT ADJ PART

FM

FM 1	TUNING VOLTAGE CHECK

1. ———
2. 108MHz,87.5MHz
3. CONNECT A DIGITAL VOLTMETER BETWEEN TP1 AND TP2
4. 8V AT 108MHz
   1.6V AT 87.5MHz

FM 2	FM SENSITIVITY

1. 98.0MHz / 54dBμ
2. 98.0MHz
3. LINEOUT IFT
4. MAXIMUM OUTPUT.
   ※CONNECT AN OSCILLOSCOPE AND DISTORTION METER.

FM 4	TUNING LED(IND)

1. 98.0MHz / 11dBμ
2. 98.0MHz
3. RV102
4. TUNING IND ON

FM 3	FM CENTER VOLTAGE AND THDADJ.

1. 98.0MHz / 54dBμ
2. 98.0MHz
3. CONNECT A DIGITAL VOLTMETER BETWEEN TP3 AND TP4
   CONNECT A DISTORTION METER TO LINEOUT.
   T104 ···· FM CENTER VOLTAGE
   T105 ···· THD
4. 0±50mV
   MINIMUM DISTORTION
   ※FOR BEST RESULT,REPEAT T104 AND T105 ADJUSTMENT 2 OR 3 TIMES

FM 5	STEREO SEPARATION

1. 98.0MHz / 54dBμ STEREO(LOR Rch ONLY)
2. 98.0MHz
3. LINEOUT RV103
4. MINIMUM OUT PUT.FROM OTHER CHANNEL
   ※FOR BEST RESULT,REPEAT BOTH CHANNEL 2 OR 3 TIMES.

FM 6	PILOT LEAK

1. 98.0MHz / 54dBμ STEREO (CARRIER AND PILOT ONLY)
2. 98.0MHz
3. LINEOUT,FL106,FL107
4. MINIMUM OUTPUT

LW

NOTES :
1. SET THE SSG TO 30%,1kHz OF EACH.
2. CONFIRM THAT THE SENSITIVITY MARGIN BETWEEN LOW AND HIGH RANGE SENSITIVITIES IS WITHIN 6dBμ,OTHERWISE READJUST LOW AND HIGH RANGE SENSITIVITY.

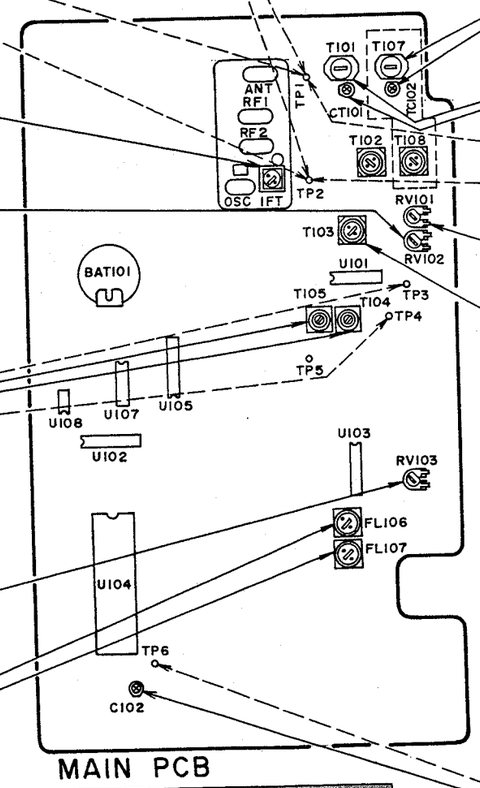
LW 1	TUNING VOLTAGE CHECK

1. ———
2. 146kHz, 353kHz
3. CONNECT A DIGITAL VOLTMETER BETWEEN TP1 AND TP2
4. 1.52V AT 146kHz
   7.0V AT 353kHz

LW 2	TRACKING

1. 170kHz,320kHz / 60dBμ
2. 170kHz,320kHz
3. LINEOUT
   T107 AT 170kHz
   CT102 AT 320kHz
4. MAXIMUM OUTPUT AND MINIMUM DISTORTION
   ※FOR BEST RESULT REPEAD 170kHz AND 320kHz 2 OR 3 TIMES

AT-M739L MODEL ONLY



MAIN PCB

NOTES:
1. SET THE SSG 75KHz DEVIATION,1KHz FOR C,A,U,S MODELS 40KHz DEVIATION,1KHz FOR B,E,V MODELS.
2. READJUST FROM STEP 2 TO STEP 5, IN CASE T105 IS TURNED MORE THAN A QUARTER TURN OBTAINING THE PROPER DISTORTION(STEREO)
3. CONFIRM THAT THE SENSITIVITY MARGIN BETWEEN LOW AND HIGH RANGE SENSITIVITIES IS WITHIN 3dB OTHERWISE READJUST LOW AND HIGH RANGE SENSITIVITY.
4. OdB = 1μV

: MODEL AT-M739L ONLY

NOTE :
1. SET THE SSG TO 30%,1kHz OF EACH.
2. CONFIRM THAT THE SENSITIVITY MARGIN BETWEEN LOW AND HIGH RANGE SENSITIVITIES IS WITHIN 6dBμ,OTHERWIES READJUST LOW AND HIGH RANGE SENSITIVITY.

AM

AM 3	TRACKING

1. 603kHz,1404kHz / 60dBμ
2. 603kHz,1404kHz
3. LINEOUT T101 AT 603kHz
   CT101 AT 1404kHz
4. MAXIMUM OUTPUT AND MINIMUM DISFORTION
   ※FOR BEST RESULT REPEAT 603kHz AND 1404kHz 2 OR 3 TIMES

AM 1	TUNING VOLTAGE CHECK

1. ———
2. 531kHz,1602kHz
3. CONNECT A DIGITAL VOLTMETER BETWEEN TP1 AND TP2
4. 7.3V AT 1602kHz
   1.45V AT 531kHz

AM 4	TUNING LED(IND)

1. 999kHz / 52dBμ,51dBμ
2. 999kHz
3. RV101
4. TUNING IND ON AT 52dBμ
   TUNING IND OFF AT 51dBμ

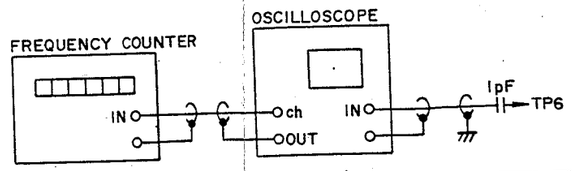
AM 2	AM IF

1. 450kHz
2. 531kHz
3. LINEOUT T103
4. MAXIMUM OUTPUT

TIMER

TIMER 1	X'TAL OSC

1. CONNECT A FREQUENCY COUNTER AND OSCILLOSCOPE TO TP6 AS SHOWN BELOW.
2. ADJUST THE TIMER CAPACITER C102 SO THAT THE FREQUENCY COUNTER READING IS 4.194306 MHz ±24Hz



V. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

A small "x" indicates that this part is not shown in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure.

This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination
[A]: AAL(U.S.A.) [S]: SAA(Australia)
[B]: BEAB(England) [U]: U/T(Universal Area)
[C]: CSA(Canada) [V]: VDE(W. Germany)
[E]: CEE(Europe) [Y]: Custom Version
[J]: JPN(Japan)

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	BZ-719326	REMOCON SENSOR BLK BX-1407
2	ED-325003	D GERMA H 0A90G
3	ED-370976	D LED SLB-22PW3
4	ED-344280	D SILICON H GMA-01-FY2 F05
5	*ED-719282	D SILICON H MPG06G
6	ED-723355J	D SILICON MA150
7	*ED-704088	D SILICON W02
8	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL
9	ED-367528	D ZENER H MA1047-M
10	*ED-356468	D ZENER H MA1051-M
11	*ED-367529	D ZENER H MA1062-M
12	ED-367530	D ZENER H MA1240-M
13	EE-725248J	FRONT END FE407-G40 [V]
14	EE-723344J	FRONT END 37E-4F-U [E,B]
15	*EF-355374	FUSE BET T 250V 500MA
16	EH-344434	FILTER CE BFU450C4N 0.450MHZ
17	EH-716762	FILTER CE SFE10.7MA5 [E,B]
18	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
19	EH-719331	FILTER CE SFZ450G
20	EH-723392J	FILTER CE 10.7MHZ SFE10.7MK-A [V]
21	EH-723356J	FILTER LC 114KHZ [V]
22	EH-719332	FILTER MPX LXM211X
23	EI-723340J	IC LA1266A
24	EI-349963	IC LA3410
25	EI-719340	IC LB1291
26	EI-321606	IC LM393N
27	EI-354951	IC LM7000N
28	EI-304657	IC TC4011BP
29	*EI-723339J	IC UA7812
30	EI-719644	IC UPD75104CW-048
31	EI-349970	OSC CE CSB456F11 0.456MHZ
32	EI-719342	OSC X'TAL CSA309 4.194304MHZ
33	EI-723343J	OSC X'TAL 7200KHZ
34	*EQ-719345	RELAY G4W-1112P-US-TV8 12V
35	*ER-358910	R OMF H S15 FS 2W 181J
36	ES-356115	SW PUSH J-U3066#01 01-1
37	ES-719325	SW TACT SOA-112HS
38	ET-719334	TR FET 2SK49 F
39	*ET-309184	TR 2SA1020 O,Y
40	ET-357532	TR 2SA933S R
41	ET-749553	TR 2SC1383 Q,R
42	ET-337385	TR 2SC1675 L
43	ET-330225	TR 2SC1815 BL
44	ET-338410	TR 2SC2878 A,B
45	ET-360067	TR 2SC3330 T,U F05

2. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1A	BA-725251J	PC MAIN BLK AT-M739(E)
1B	BA-725249J	PC MAIN BLK AT-M739(V)
1C	BA-725250J	PC MAIN BLK AT-M739L(E,B)

3. MAIN P.C BOARD

Ref. No.	Part No.	Description
A101	EE-723344J	FRONT END 37E-4F-U [E,B]
A101	EE-725248J	FRONT END FE407-G40 [V]
BAT101	*EZ-719279	BATTERY LITHIUM CR2430-FT
C102	EC-719646	C S-FIX N750 TZ03R200A 20P
C183	*EC-338496	C CE V FZ 472P 400AC
CT101	EC-719330	C S-FIX N450 TZ03T11A 10PF
CT102	EC-719330	C S-FIX N450 TZ03T11A 10PF [E,B] [AT-M739L ONLY]
D101	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL
D102	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL
D103	ED-344280	D SILICON H GMA-01-FY2 F05 [E,B] [AT-M739L ONLY]
D104	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL [E,B] [AT-M739L ONLY]
D105	ED-349460-A	D VARACTOR SVC321SPA ABCD DBL [E,B] [AT-M739L ONLY]
D106	ED-344280	D SILICON H GMA-01-FY2 F05 [E,B] [AT-M739L ONLY]
D107	ED-344280	D SILICON H GMA-01-FY2 F05 [E,B] [AT-M739L ONLY]
D108	ED-344280	D SILICON H GMA-01-FY2 F05 [E,B] [AT-M739L ONLY]
D109	ED-344280	D SILICON H GMA-01-FY2 F05
D110	ED-344280	D SILICON H GMA-01-FY2 F05
D111	ED-344280	D SILICON H GMA-01-FY2 F05
D112	ED-344280	D SILICON H GMA-01-FY2 F05
D113	ED-344280	D SILICON H GMA-01-FY2 F05
D114	ED-344280	D SILICON H GMA-01-FY2 F05
D115	ED-344280	D SILICON H GMA-01-FY2 F05
D116	ED-344280	D SILICON H GMA-01-FY2 F05
D117	*ED-704088	D SILICON W02
D118	*ED-719282	D SILICON H MPG06G
D119	*ED-719282	D SILICON H MPG06G
D120	ED-367530	D ZENER H MA1240-M
D121	ED-367528	D ZENER H MA1047-M
D122	ED-719282	D SILICON H MPG06G
D124	*ED-367529	D ZENER H MA1062-M
D125	ED-344280	D SILICON H GMA-01-FY2 F05
D126	*ED-356468	D ZENER H MA1051-M
D127	ED-344280	D SILICON H GMA-01-FY2 F05
D128	ED-344280	D SILICON H GMA-01-FY2 F05
D129	ED-723355J	D SILICON MA150
D136	ED-344280	D SILICON H GMA-01-FY2 F05
D137	ED-344280	D SILICON H GMA-01-FY2 F05
D138	ED-325003	D GERMA H 0A90G
D139	ED-344280	D SILICON H GMA-01-FY2 F05
D140	ED-344280	D SILICON H GMA-01-FY2 F05
D141	ED-723776J	D ZENER H MA1091M [V]
FL101	EH-719331	FILTER CE SFZ450G
FL102	EH-716762	FILTER CE SFE10.7MA5 [E,B]
FL102A	EH-723392J	FILTER CE 10.7MHZ SFE 10.7MK-A [V]
FL103	EH-716762	FILTER CE SFE10.7MA5 [E,B]
FL103A	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
FL104	EH-344434	FILTER CE BFU450C4N 0.450MHZ
FL105	EI-349970	OSC CE CSB456F11 0.456MHZ
FL106	EH-719332	FILTER MPX LXM211X
FL107	EH-719332	FILTER MPX LXM211X
FL108	EH-723356J	FILTER LC 114KHZ [V]
JA1	EJ-719344	TERMINAL LEVER YD31 -0215 P 2P [ANTENNA]
JA2	EJ-719343	PIN J YKC21-0048A 2P [OUTPUT]
L101	EO-719333	COIL CHOKE N-393J 39MH J
Q101	ET-719334	TR FET 2SK49 F
Q102	ET-357532	TR 2SA933S R [E,B] [AT-M739L ONLY]

Ref. No.	Part No.	Description
Q103	ET-337385	TR 2SC1675 L
Q104	ET-357532	TR 2SA933S R
		[E,B] [AT-M739L ONLY]
Q105	ET-357532	TR 2SA933S R
Q106	ET-330225	TR 2SC1815 BL
Q107	ET-330225	TR 2SC1815 BL
Q108	ET-719334	TR FET 2SK49 F
		[E,B] [AT-M739L ONLY]
Q109	ET-357532	TR 2SA933S R
		[E,B] [AT-M739L ONLY]
Q110	ET-360067	TR 2SC3330 T,U F05
Q111	ET-330225	TR 2SC1815 BL
		[E,B] [AT-M739L ONLY]
Q112	ET-330225	TR 2SC1815 BL
		[E,B] [AT-M739L ONLY]
Q113	ET-338410	TR 2SC2878 A,B
Q114	ET-338410	TR 2SC2878 A,B
Q115	ET-357532	TR 2SA933S R
Q116	ET-330225	TR 2SC1815 BL
Q118	ET-357532	TR 2SA933S R
Q119	ET-749553	TR 2SC1383 Q,R
Q120	ET-330225	TR 2SC1815 BL
Q121	ET-330225	TR 2SC1815 BL
Q122	ET-337385	TR 2SC1675 L
Q123	ET-749553	TR 2SC1383 Q,R
Q124	*ET-309184	TR 2SA1020 O,Y
Q125	ET-330225	TR 2SC1815 BL
Q126	*ET-749553	TR 2SC1383 Q,R
Q127	ET-330225	TR 2SC1815 BL
Q131	ET-330225	TR 2SC1815 BL
Q132	ET-330225	TR 2SC1815 BL
R244	*ER-358910	R OMF H S15 FS 2W 181J
RV101	EV-338463	R S-FIX H V8K4-11(1S) 0.10W203
RV102	ER-367523	R S-FIX H V8K4-11(1S) 0.10W204
RV103	EV-357837	R S-FIX H V8K4-11(1S) 0.10W104
RY101	*EQ-719345	RELAY G4W-1112P-US-TV8 12V
T101	EO-719339	COIL RF 601301004A
T102	EO-719337	COIL RF HW-50454 R12-E668A
T103	EO-723338J	COIL IFT 21K7-H5
T104	EO-719645	COIL RF 10.7MHZ IFT-41M7-M
T105	EO-719336	COIL RF HW-40131 R12-E666A
T107	EO-723353J	COIL LW 6.5MH
		[E,B] [AT-M739L ONLY]
T108	EO-723351J	COIL RF HW-6019
		[E,B] [AT-M739L ONLY]
U101	EI-723340J	IC LA1266A
U102	EI-354951	IC LM7000N
U103	EI-349963	IC LA3410
U104	EI-719644	IC UPD75104CW-048
U105	EI-719340	IC LB1291
U106	EI-719340	IC LB1291
U107	EI-304657	IC TC4011BP
U108	EI-321606	IC LM393N
U109	*EI-723339J	IC UA7812
XT101	EI-723343J	OSC X'TAL 7200KHZ
XT102	EI-719342	OSC X'TAL CSA309 4.194304MHZ
F1	*EF-355374	FUSE BET T 250V 500MA
F2	*EF-355374	FUSE BET T 250V 500MA

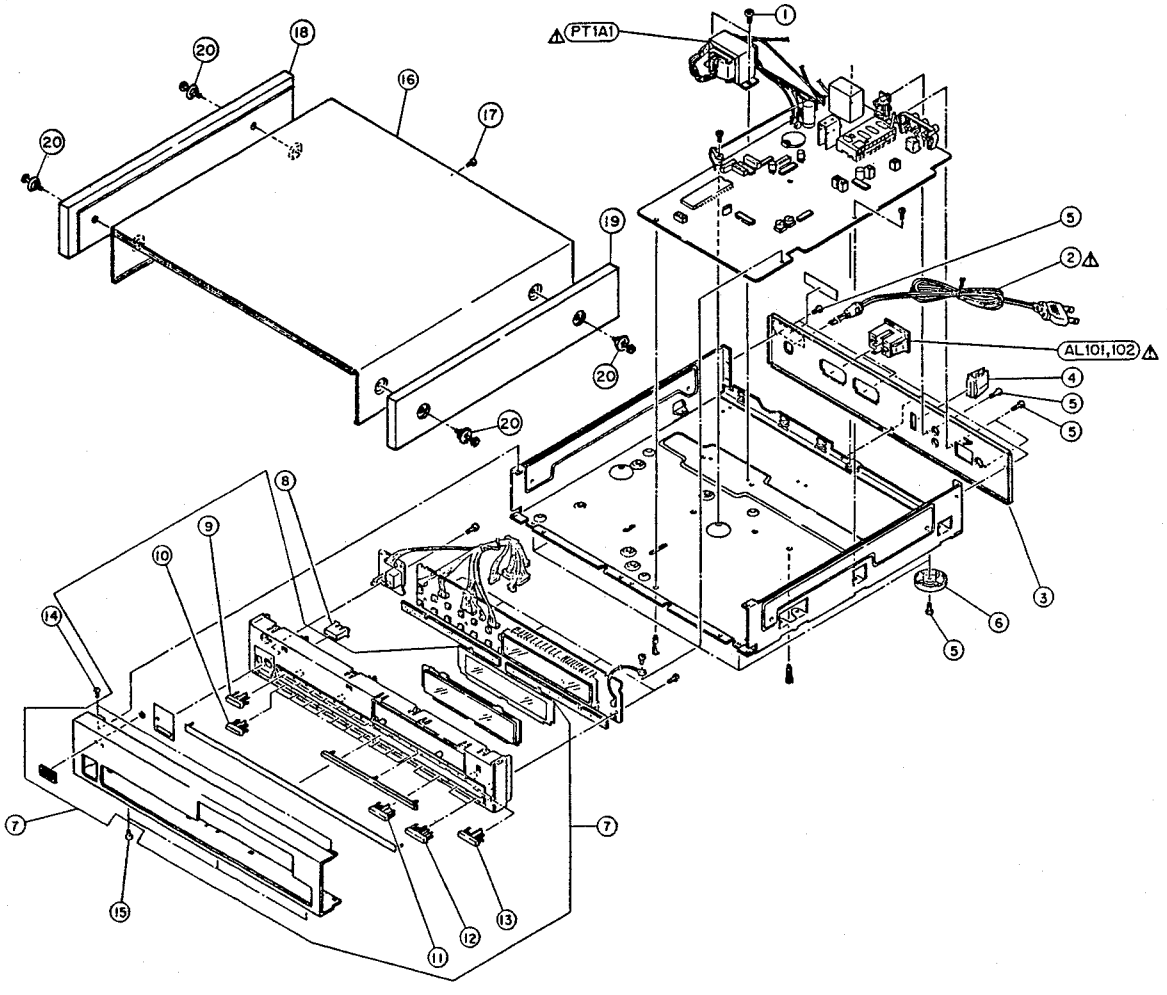
4. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D129	ED-344280	D SILICON H GMA-01-FY2 F05
D130	ED-344280	D SILICON H GMA-01-FY2 F05
D131	ED-344280	D SILICON H GMA-01-FY2 F05
D132	ED-344280	D SILICON H GMA-01-FY2 F05
D133	ED-344280	D SILICON H GMA-01-FY2 F05
D134	ED-344280	D SILICON H GMA-01-FY2 F05
FD101	EM-371183	IND FL 7-BT-49ZK DOUBLE
S101	ES-719325	SW TACT SOA-112HS
S102	ES-719325	SW TACT SOA-112HS
S103	ES-719325	SW TACT SOA-112HS
S104	ES-719325	SW TACT SOA-112HS
S105	ES-719325	SW TACT SOA-112HS
S106	ES-719325	SW TACT SOA-112HS
S107	ES-719325	SW TACT SOA-112HS
S108	ES-719325	SW TACT SOA-112HS
S109	ES-719325	SW TACT SOA-112HS
S110	ES-719325	SW TACT SOA-112HS
S111	ES-719325	SW TACT SOA-112HS
S112	ES-719325	SW TACT SOA-112HS
S113	ES-719325	SW TACT SOA-112HS
S114	ES-719325	SW TACT SOA-112HS
S115	ES-719325	SW TACT SOA-112HS
S116	ES-719325	SW TACT SOA-112HS
S117	ES-719325	SW TACT SOA-112HS
S118	ES-719325	SW TACT SOA-112HS
S119	ES-719325	SW TACT SOA-112HS
S120	ES-719325	SW TACT SOA-112HS
S121	ES-719325	SW TACT SOA-112HS
S122	ES-719325	SW TACT SOA-112HS

5. REMOTE CONTROL P.C BOARD

Ref. No.	Part No.	Description
C1	EC-355371	C CE V DNS472ZV V 472Z 400AC
D135	ED-370976	D LED SLB-22PW3
S1	ES-356115	SW PUSH J-U3O66#01 01-1
S123	ES-719325	SW TACT SOA-112HS
Z1	BZ-719326	REMOCON SENSOR BLK BX-1407

FINAL ASSEMBLY BLOCK



6. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
PT1A1	*BT-723367J	TRANS POW EX2361 AT-M739(E,V)
PT1A1	*BT-723383J	TRANS POW EX2362 AT-M739L(E,B)
1	ZS-304022	ST PAN40X06STL CMT
2A	*EW-338516	AC CORD KP-419C,LTCE-2F E [E,V]
2B	*EW-723384J	AC CORD LTCE-2F [B]
3A	SP-723371J	PANEL REAR AT-M739(E,V) [E,V]
3B	SP-723379J	PANEL REAR AT-M739L(E) [E]
3C	SP-723382J	PANEL REAR AT-M739L(B) [B]
4	SZ-719353	HOLDER LOOP ANT
AL101	*EJ-723370J	AC OUTLET S2-729T-100 [E,V]
AL101	*EJ-723386J	AC OUTLET S2-741T-110 [B]
AL102	*EJ-723370J	AC OUTLET S2-729T-100 [E,V]
AL102	*EJ-723386J	AC OUTLET S2-741T-110 [B]
5	ZS-305827	ST BID30X06STL BNI
6	SA-723357J	LEG ASSY
7A-B	BD-723366J	PANEL FRONT BLK AT-M739-B
7A-G	BD-723378J	PANEL FRONT BLK AT-M739-G
7B-B	BD-723358J	PANEL FRONT BLK AT-M739L-B
7B-G	BD-723377J	PANEL FRONT BLK AT-M739L-G
8-B	SK-723376J	KNOB POWER B
8-G	SK-723400J	KNOB POWER G
9-B	SB-719317	BUTTON A-B
9-G	SK-723401J	KNOB A-G
10-B	SB-719318	BUTTON C-B
10-G	SK-723414J	KNOB C-G
11-B	SB-719320	BUTTON D-B
11-G	SK-723423J	KNOB D-G
12-B	SB-719321	BUTTON E-B
12-G	SK-723427J	KNOB E-G
13-B	SB-719319	BUTTON B-B
13-G	SK-723421J	KNOB B-G
14	ZS-300506	ST PAN30X05STL CMT
15	ZS-305827	ST BID30X06STL BNI
16-B	SP-723365J	COVER UPPER B
16-G	SP-723399J	COVER UPPER-G
17	ZS-305827	ST BID30X06STL BNI
18	SP-371172J1	SIDE BOARD (L)
19	SP-371173J1	SIDE BOARD (R)
20	ZS-365678	SCREW SLIDE TYPE W/WASHER(J)

7. ACCESARY

Ref. No.	Part No.	Description
1	EW-344151	CORD RR-61A PINX2-PINX2
2	EJ-352118	SOCKET COAX PAL B2-714P-900
3	EE-719359	ANT LOOP
4	EE-320526	ANT DIPOLE SAE-008

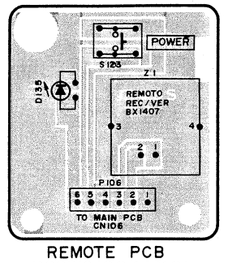
AKAI

MODEL AT-M739/L

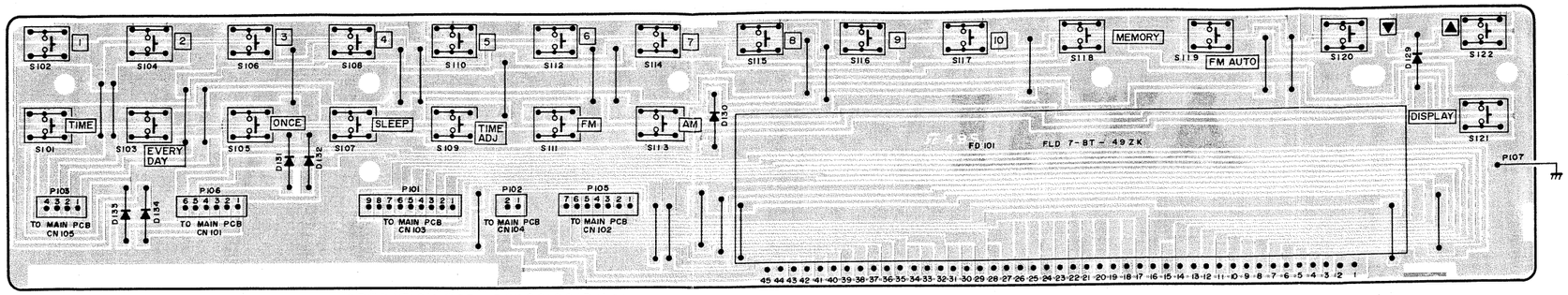
SCHEMATIC DIAGRAM AND PC BOARDS

TABLE OF CONTENTS

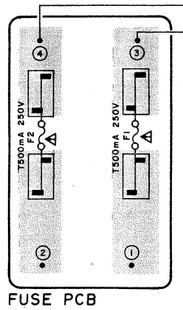
1. AT-M739 MAIN PC BOARD 2
2. AT-M739 SCHEMATIC DIAGRAM 3
3. AT-M739L SCHEMATIC DIAGRAM 4
4. AT-M739L MAIN PC BOARD 5
5. BLOCK DIAGRAM 6



REMOTE PCB
PSSWC1004A✱01



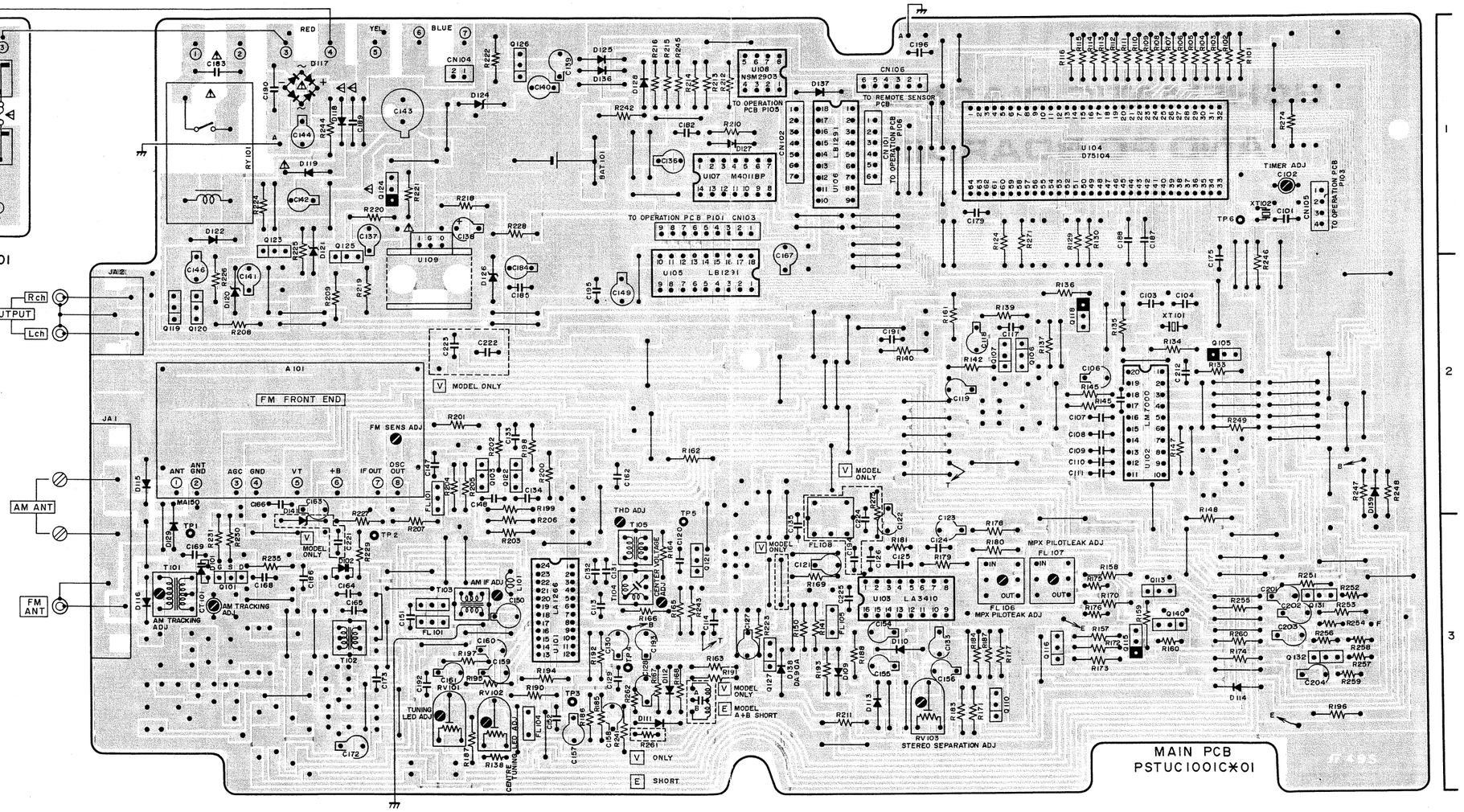
OPERATION PCB PSDSC1001B✱01



FUSE PCB
PSZZC1010A✱01

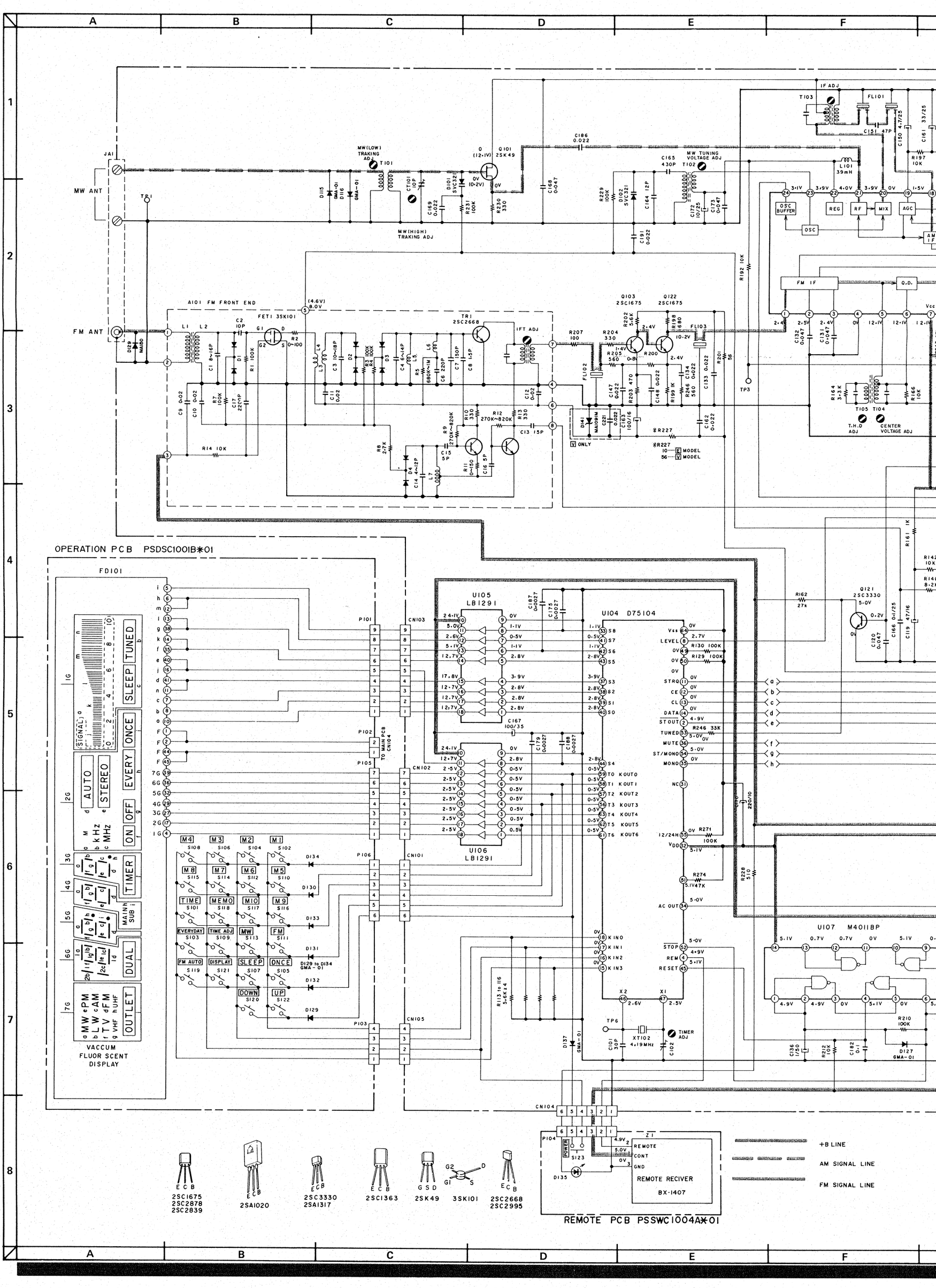
LOCATION OF COMPONENTS

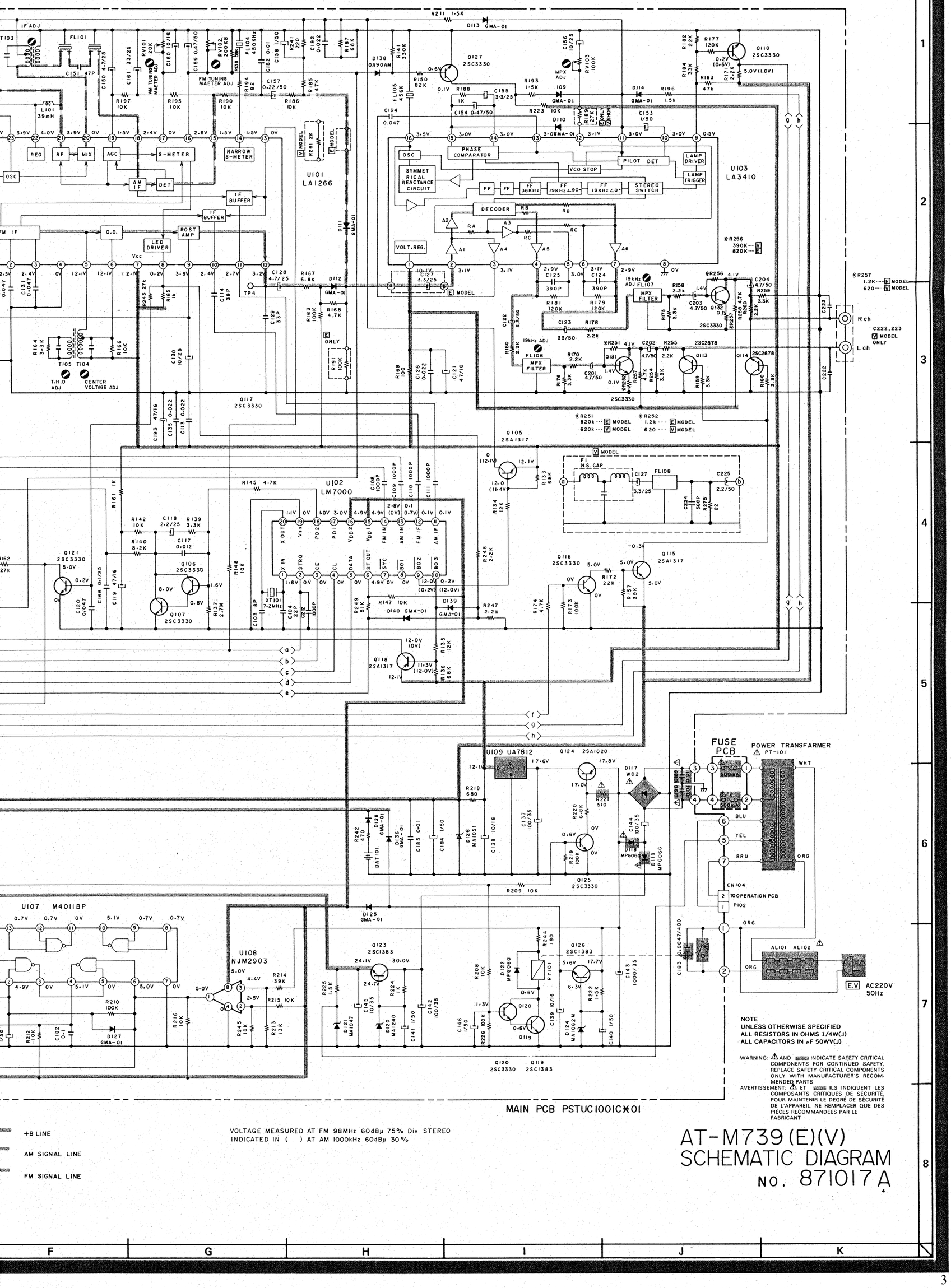
TRS	Q101 ----- A3	Q118 ----- D2	ICS	U101 ----- B3	
	Q103 ----- B2	Q119 ----- A2		U102 ----- E2	
	Q105 ----- E2	Q120 ----- A2		U103 ----- D3	
	Q106 ----- D2	Q121 ----- C3		U104 ----- D1	
	Q107 ----- D2	Q122 ----- B2		U105 ----- C2	
	Q110 ----- D3	Q123 ----- A1		U106 ----- C1	
	Q113 ----- E3	Q124 ----- B1		U107 ----- C1	
	Q114 ----- E3	Q125 ----- A1		U108 ----- C1	
	Q115 ----- E3	Q126 ----- B1		U109 ----- B1	
	Q116 ----- D3	Q127 ----- C3			



WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


A
B
C
D
E
F
1
2
3
4
5
6
7
8
JA1
MW ANT
FM ANT
TB1
MW(LOW) TRAKING ADJ
MW(HIGH) TRAKING ADJ
T101
Q101 2SK49
MW TUNING VOLTAGE ADJ
T102
IF ADJ
T103
FL101
L101 39mH
OSC BUFFER
OSC
REG
RF
MIX
AGC
FM IF
Q.D.
A101 FM FRONT END
FET1 3SK101
TR1 2SC2668
IFT ADJ
Q103 2SC1675
Q122 2SC1675
FL102
FL103
TP3
T105 T104
T.H.D ADJ
CENTER VOLTAGE ADJ
OPERATION PCB PSDSC1001B*01
FD101
VACCUM FLUOR SCENT DISPLAY
SLEEP
TUNED
ONCE
AUTO
STEREO
EVERY
ON
OFF
TIMER
DUAL
OUTLET
U105 LB1291
U106 LB1291
U104 D75104
U107 M4011BP
P101
P102
P103
P104
P105
P106
CN101
CN102
CN103
CN104
CN105
TO MAIN PCB CN104
M4
M3
M2
M1
M8
M7
M6
M5
TIME
MEMO
M10
M9
EVERYDAY
TIME ADJ
MW
FM
FM AUTO
DISPLAY
SLEEP
ONCE
DOWN
UP
V ONLY
*R227
10 — E MODEL
56 — V MODEL
REMOTE RECIVER BX-1407
REMOTE PCB PSSWC1004A*01
+B LINE
AM SIGNAL LINE
FM SIGNAL LINE
2SC1675 2SC2878 2SC2839
2SA1020
2SC3330 2SA1317
2SC1363
2SK49
3SK101
2SC2668 2SC2995


U101 LA1266
U103 LA3410
U102 LM7000
U107 M4011BP
U108 NJM2903
U109 UA7812
Q124 2SA1020
FUSE PCB
POWER TRANSFARMER PT-101
MAIN PCB PSTUC1001C*01
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSEMENT: ⚠ ET ▨ ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT
+B LINE
AM SIGNAL LINE
FM SIGNAL LINE
VOLTAGE MEASURED AT FM 98MHz 60dBμ 75% Div STEREO
INDICATED IN ( ) AT AM 1000kHz 60dBμ 30%
AT-M739(E)(V)
SCHEMATIC DIAGRAM
NO. 871017A

MW LW ANT
FM ANT
MW(LOW) TRACKING ADJ
MW(HIGH) TRACKING ADJ
LW(HIGH) TRACKING ADJ
LW(LOW) TRACKING ADJ
MW TUNING VOLTAGE ADJ
LW TUNING VOLTAGE ADJ
IF ADJ
A101 FM FRONT END
FET1 3SK101
TRI 2SC2668
IFT ADJ
Q103 2SC1675
Q122 2SC1675
Q102 2SA1317
Q109 2SA1317
Q101 2SK49
Q108 2SK49
FM IF
Q.D.
OSC BUFFER
OSC
REG
RF
MIX
AGC
T.H.D ADJ
CENTER VOLTAGE ADJ
OPERATION PCB PSDSC1001B*01
FD101
VACCUM FLUOR SCENT DISPLAY
SLEEP
ONCE
EVERY
AUTO
STEREO
TUNED
TIMER
MAIN/SUB
DUAL
OUTLET
M4 S108
M3 S106
M2 S104
M1 S102
M8 S115
M7 S114
M6 S112
M5 S110
TIME S101
MEMO S118
M10 S117
M9 S116
EVER-YDAY S103
TIME ADJ S109
MW/LW S113
FM S111
FM AUTO S119
DISPLAY S121
SLEEP S107
ONCE S105
DOWN S120
UP S122
D129 to D134 GMA-01
P101
CN103
P102
TO MAIN PCB CN104
P105
CN102
P106
CN101
P103
CN105
U105 LB1291
U106 LB1291
U104 D75104
U107 M4011BP
CN104
P104
S123 POWER
D135
REMOTE CONT GND
REMOTE SENSOR BX-1407
REMOTE PCB PSSWC1004A*01
2SC1675 2SC2878 2SC2839
2SA1020
2SC3330 2SA1317
2SC1363
2SK49
3SK101
2SC2668 2SC2995
+B LINE
MW LINE
FM SIGNAL LINE

F G H I J K

U101 LA1266

U103 LA3410

U102 LM7000

U107 M4011BP

U108 NJM2903

U109 UA7812

FUSE PCB

POWER TRANS PT-101

JA1 Rch Lch

TO OPERATION PCB P102

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

WARNING: ⚠ AND [redacted] INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ ET [redacted] ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

VOLTAGE MEASURED AT FM 98MHz 60dBμ 75% Div STEREO
INDICATED IN ( ) AT MW 1000kHz 60dBμ 30%
INDICATED IN ( ) AT LW 300kHz 70dBμ 30%

MAIN P C B PSTUC1001C✱01

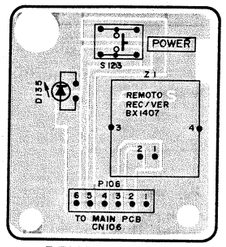
+B LINE

MW LINE

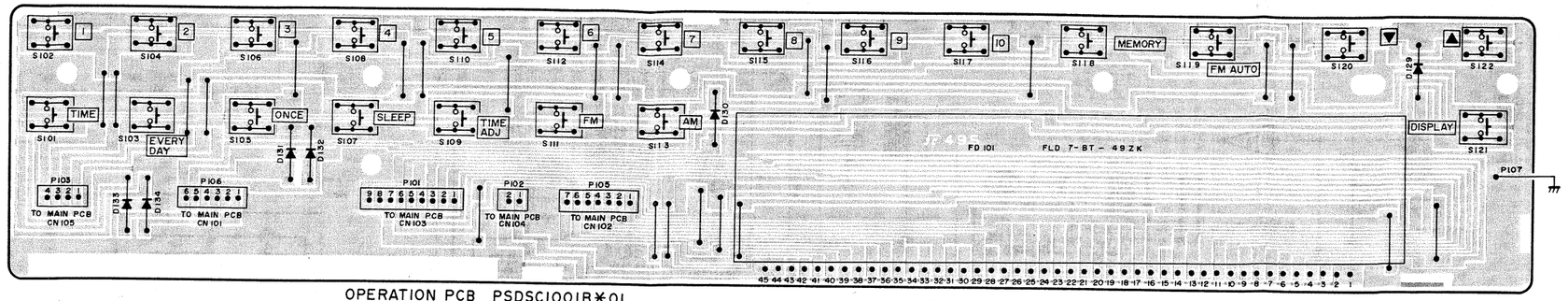
FM SIGNAL LINE

AT-M739L
SCHEMATIC DIAGRAM
NO. 871018A

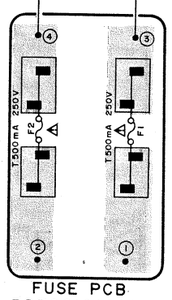
1 2 3 4 5 6 7 8



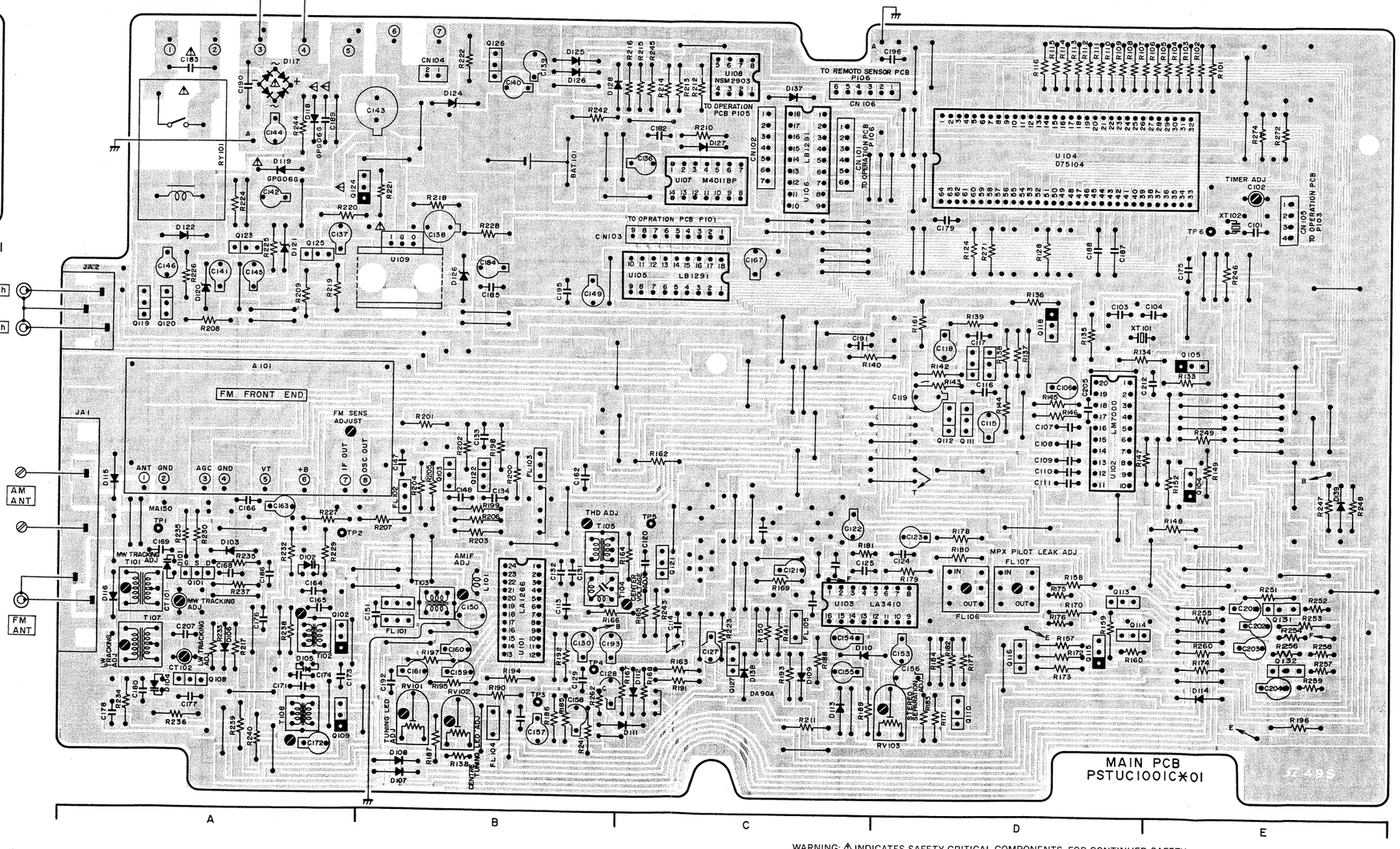
REMOTE PCB
PSSWC1004A✱01



OPERATION PCB PSDSC1001B✱01



FUSE PCB
PSZ2C1010A✱01



2SK49 (G S D)
2SC1675 2SC2878 (E C B)
2SC1383 (E C B)
2SA1020 (E C B)
2SC3330 2SA1317 (E C B)

B — PNP TRANSISTOR

B — NPN TRANSISTOR

G S D — FET

LOCATION OF COMPONENTs

TRs

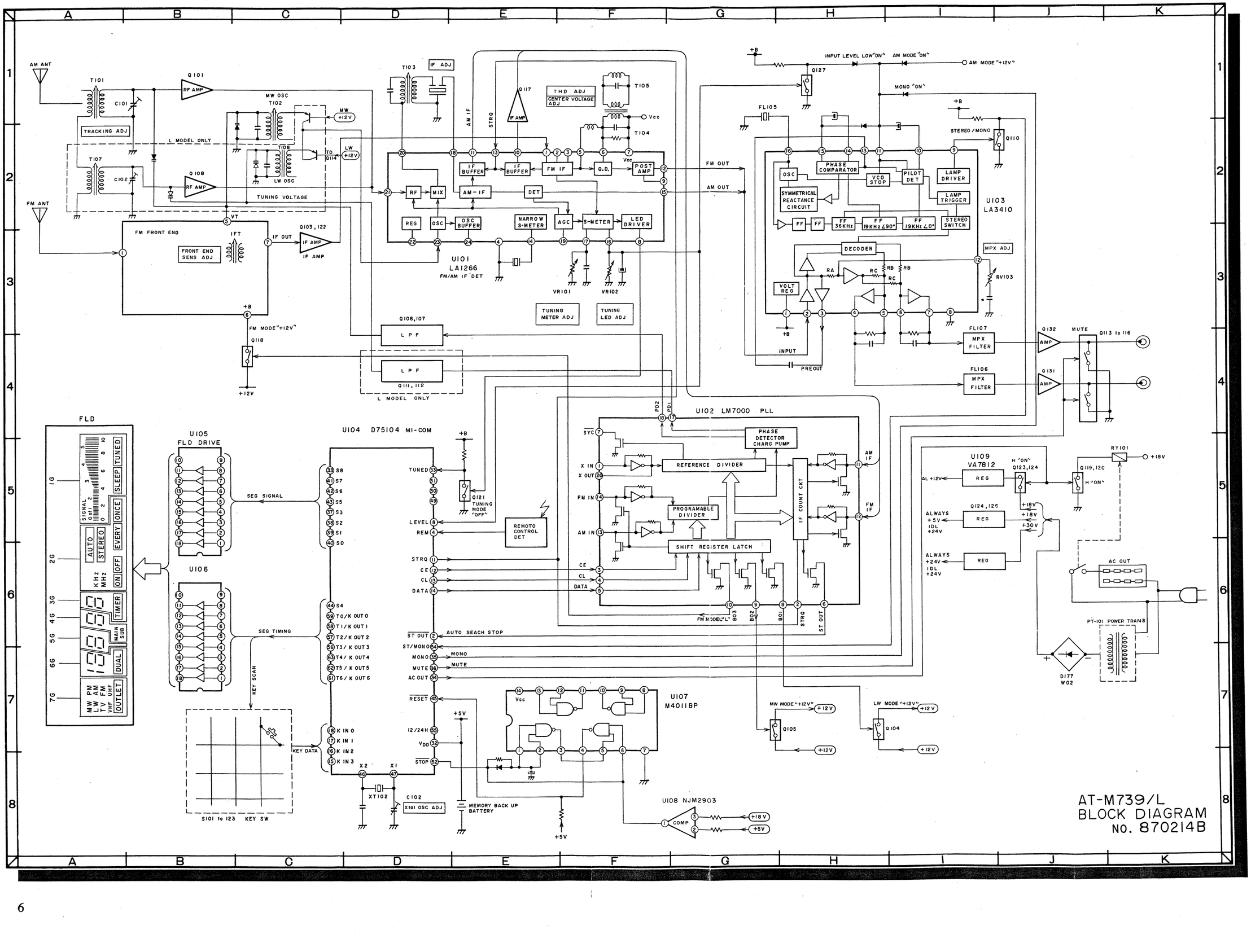
Q101...A3	Q114...E3	
Q102...B3	Q115...E3	
Q103...B2	Q116...D3	
Q104...E2	Q118...D2	
Q105...E2	Q119...A2	
Q106...D2	Q120...A2	
Q107...D2	Q121...C3	
Q108...A3	Q122...B2	
Q109...B3	Q123...A1	
Q110...D3	Q124...B1	
Q111...D2	Q125...A1	
Q112...D2	Q126...B1	
Q113...E3	Q127...C3	

ICs

U101...B3	
U102...E2	
U103...D3	
U104...D1	
U105...C2	
U106...C1	
U107...C1	
U108...C1	
U109...B1	

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


AM ANT
FM ANT
T101
C101
TRACKING ADJ
Q101
RF AMP
MW OSC
T102
MW +12V
L MODEL ONLY
T108
TO Q114
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